It is impossible to describe the consummate skill with which so many figures are arranged and grouped in this confined space, or the truth and correctness of the drawing, the distribution of light and shade, the effect of the colours, and scrupulous attention to the minutest accessories. Michael Angelo and Raffaelle might have been proud of the dying horseman; and Alexander's Bucephalus, the horses of the quadriga, the others that lie on the ground wounded, and especially the one rearing and fore-shortened, are drawn with a boldness and truth in their motions and positions which the greatest modern painters, Raffaelle not excepted, might envy." This praise is perhaps injudiciously glowing; but there can be no doubt that this mosaic must be a wonderful specimen of the art. The subject is supposed to represent one of the battles between the Persians and the Greeks. The odd conceits at the bottom seem of a far inferior stamp, and are probably the work of another hand.

Various other very remarkable specimens of mosaic have been from time to time brought to light in different countries. At the end of the last century a mosaic pavement was discovered near Seville, in Spain, at a small depth below the surface of the ground. It was forty feet long by thirty wide, and contained in the centre a representation of the circus-games of the ancients, while on three sides were circular compartments containing figures of the Muses, &c. In the race-course a busy medley of events was depicted, such as a chariot overturned, the charioteer thrown, horses in confusion, and horsemen dismounted; while several spectators are looking on at the sports. In the compartments, besides the representations of the Muses, were centaurs, children in variously-coloured tunics, and animals of various kinds. The floor between the different compartments also exhibited various birds, fruits, and flowers, and great diversity of colour was exhibited throughout the whole.

Another specimen, dug up near Lyons, was composed of small cubes of marble, interspersed in some places with pastes of different colours. In this, as in the specimen just alluded to, the whole details of the circus-games were represented; it comprised no fewer than eight chariots, which appeared as if they had started at once, some of which had fallen, and the horses and charioteers fallen. Spectators surrounded the scene, and seemed to regard it with eager interest.

The representation of pictures by means of mosaic for flooring or pavement was not the only variety known to the Romans. That ingenious people also formed patterns of a more or less elegant kind by the arrangement of small cubes of marble, or stone, or plaster previously coloured. The six cuts annexed give specimens executed apparently either by the Romans or while the Romans were in power. It is frequently the practice to denominate as "mosaic pictures" those which represent scenes or events, and as "tessellated pavements" those which exhibit simpler designs, generally in two or three colours only. The most beautiful specimen of Roman pavement yet discovered in London is that represented in fig. 1. It was dug up in the year 1803, in Leadenhall-street, immediately in front of the eastern column of the portico of the the East India House. It lay at the depth of only nine feet and a half below the street; a sewer had cut away a considerable portion of it, but the central compartment, about eleven feet square, was nearly perfect. The whole is supposed to have formed the flooring of a room about twenty feet square. "The device occupying the centre was a figure of Bacchus reclining on the back of a tiger, holding his thyrsus erect in his left hand, while a small two-handled drinking-cup hung from his right; a wreath of vine-leaves circling his forehead, a purple and green mantle falling from his right shoulder and gathered round his waist, with a sandal on his extended left foot, the lacing of which reached to the calf of the leg. This design was surrounded by three circular borders, the first exhibiting on a party-coloured field, composed of dark grey, light grey, and red ribands, a serpent with a black back and white belly; the second, a series of white cornucopiæ indented in black; the third and innermost, a succession of concave squares. In two of the angular spaces between this last circle and the circumscribing rectangular border were double-handled drinking-cups; in the other two, delineations of some unknown plant; both figures wrought in dark grey, red, and black, on a white ground. The square border surrounding the whole consisted of two distinct belts, one described as bearing some resemblance to a bandeau of oak in dark and light grey, red, and white, on a black ground; the other exhibiting eight lozenge figures, with ends in the form of hatchets, in black, on a white ground, enclosing circles of black, on each of which was the common ornament, a true lover's knot. Beyond this was a margin, at least five feet broad, formed of plain red tiles each an inch square."—*London*, No. xvi.

Many other specimens of Roman pavement have been dug up in the various alterations which London has undergone within the last half century. Thus in the course of digging the foundation for an extension of the Bank of England, in 1804, a tessellated pavement was found at a depth of about eleven feet below the surface, and is now deposited in the British Museum; its dimensions are only about four feet each way, and it occupied the centre of a floor about eleven feet square. In Cannon-street, in Holborn-hill, in Crutched-friars, in Broad-street, in Fenchurch-street, in Long-lane, in Eastcheap, in Lothbury, in Crosby square, and in Threadneedle-street, specimens of these pavements have been brought to light: thereby shewing that the use of such flooring was very common among the Romans. No longer ago than the year 1841, a specimen was found in the course of pulling down the French Protestant Church, in Threadneedle-street, still glowing with wonderfully fresh and vivid colours.

The Modes of producing Mosaic Floors.

The manufacture of all these varieties of inlaid floors or pavements, whether we call them mosaic or tessellated, depends on the arrangement of small coloured pieces in a definite pattern, the shapes being adapted to each other, and the whole brought to a uniform level. The mode of proceeding, however, differs considerably, according as a mosaic picture or pavement of tessellated tiles be the object in view. We will speak therefore of the former of these two, and then of the latter.

Where a picture rather than a pavement is required, enamel rather than stone is the material employed, as presenting greater facilities for adjustment in a delicate manner. There is first prepared a frame-work or foundation; then a layer of cement into which the mosaic may be imbedded; and lastly the mosaic pieces themselves. The frame-work, formed either of marble or of a volcanic stone called "piperino," is hollowed out to the depth of three or four inches, over the whole surface, except a portion to form a border at the edges. Grooves or channels, about one inch and a half in depth, are cut in the excavated hollow of the marble, somewhat wider at the bottom than the top, as a means of retaining the cement afterwards applied. The subsequent mode of proceeding is described somewhat minutely by Mr. Cadell, who witnessed the operations in Italy a few years ago; and to his account we will have recourse.

The early mosaic-workers used, as a cement in which to imbed the mosaic pieces, a mixture of one part of slaked lime with three parts of pounded marble, made into a paste with water and white of egg. But this paste is considered by the modern artists to harden too quickly, so that it solidifies before the workman has time to insert the pieces. It is therefore superseded by a mixture of one part of slaked lime with three of powdered travertine stone, mixed up with linseed-oil, and stirred and worked every day with a trowel; the mass is at first level on the surface, but afterwards swells up; each day more oil is added, to prevent it from becoming dry and intractable; and the mass, bearing some resemblance to a smooth ointment, is ready for use in a period varying from twenty to thirty days, according to the season of the year.

The next point is the preparation of the enamel pieces to form the mosaic. The materials, consisting of glass mixed with metallic colouring-matter, are heated for eight days in a glasshouse, each colour in a separate vessel. The melted enamel is taken out with an iron spoon, and poured on a polished marble slab placed horizontally, and another flat marble slab is laid upon the surface of the melted enamel, so that the enamel cools into the form of a round cake three-tenths of an inch thick. In order to divide these cakes into smaller pieces, each one is placed on a sharp steel anvil, called a "tagliuolo," which has the edge uppermost, and a stroke of an edged hammer is given on the upper surface of the cake: the enamel is thus divided into long square strips or prisms, which are cut to a length of nearly an inch. For small pictures the enamel, while in a melted state, is drawn into long quadrangular sticks, which are divided across by the anvil and hammer or by a file. Sometimes these pieces are divided by a saw without teeth, used with emery, and the pieces are sometimes polished on a lapidary's wheel. Gilt enamel is occasionally used: this is formed by applying gold-leaf to the hot surface of a brown enamel immediately after it is taken from the furnace, the two being made to adhere by a subsequent heating in the furnace. The colours of the pieces of enamels for producing a picture are extraordinarily numerous and varied. There is (or was twenty years ago) a manufactory of mosaic pictures belonging to the Pope at Rome, situated in a large building southward of St. Peter's. In this building, the enamels, in the form of sticks about an inch in length, are arranged in a suite of rooms according to their tints; these tints are *seventeen thousand* in number, all arranged in labelled drawers, boxes, and cases, from which they are withdrawn to be used by the artist very much in the same way as a compositor uses type for printing, the colours in the one case being somewhat analogous to the letters in the other.

The frame-work, the cement, and the enamels being thus all prepared, the artist proceeds as follows:—The cement is laid on in small and convenient portions at a time, to the required thickness, and brought very smooth and level at the surface. The artist then, with the picture which he is to copy before him, selects one after another sticks of enamel of the proper colours, and imbeds them in the cement, taking them up and inserting them with forceps, and fixing them into the cement with a small flat wooden mallet, until their surfaces are level. If the effect does not please the artist, he takes them out and rearranges them. The cement remains sufficiently soft for a fortnight or three weeks, so that the workmen takes care to lay on no more cement at once than he can cover with enamel before it hardens. When one part of the picture is thus represented, more cement is laid on, and another part is done in a similar manner until all is enamelled. As there are likely to be minute crevices between the bits of enamels, they are filled up with powdered marble or enamel mixed with wax, which penetrates by having a heated iron passed over it. When the enamel has remained in its position two months, so as to allow the cement to harden, the upper surface is ground down and polished by means of a flat stone and emery—an exceedingly laborious process.

Such is the mode in which the delicate Italian pictures of mosaic enamel are produced, a mode necessarily involving a large expenditure of time and money. At the manufactory at Rome, to which allusion has been made above, mosaic-work is conducted on a large scale; the different materials are arranged in numerous apartments, from whence they are removed by the artists as occasion requires. Besides this establishment, there are many artists in Rome occupied in smaller works, such as pictures of birds, insects, flowers, and other objects not exceeding 2 or 3 inches across; for such small specimens a frame-work or foundation of hardened copper is used instead of one of marble. As an example of the extraordinary minuteness of the work in some of these mosaics, we may state that there is one specimen, a portrait of Pope Paul V., in which the face alone consists of more than a million and a half of fragments, each no larger than a millet seed! and from this size up to 2 inches square, pieces are employed in various ways. Another celebrated specimen was one which Napoleon ordered to be made when his power was paramount in Italy. It was to be a mosaic copy of the celebrated "Last Supper," by Leonardo da Vinci, and to be of the same

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